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COMMONWEALTH of VIRGINIA

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STATEMENT OF LEGAL AND FACTUAL BASIS

E. I. du Pont de Nemours and Company, Inc.
DuPont James River Plant
1201 Bellwood Road, Richmond, VA

Permit No. PRO-50554

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit progam to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC5 Chapter 80, E. I. DuPont de Nemours and Company, Inc. has applied for a renewal Title V Operating Permit for its DuPont James River Plant facility. The Department has reviewed the application and has prepared a draft renewal Title V Operating Permit.

Engineer/Permit Contact: W. Alan Ball Date: 5/9/11
W. Alan Ball
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Air Permit Manager: James E. Kyle, P.E. Date: 5/9/2011

Deputy Regional Director: Kyle Ivar Winter, P.E. Date: 5/10/11

FACILITY INFORMATION

Permittee
E.I. du Pont de Nemours and Company Inc.
1201 Bellwood Road
Richmond, VA 23237

Facility
DuPont James River Plant
1201 Bellwood Road
Richmond, VA 23237

County-Plant Identification Number: 51-041-0078

Source Description:

NAICS Code: 325188 – All Other Basic Inorganic Chemical Manufacturing
Primary SIC Code Number – 2819 Sulfuric Acid Production
Secondary SIC Code Number – 3275 Gypsum Production

The James River facility is divided into two separate manufacturing operations. The Sulfuric Acid Plant (Unit 001) produces 100 percent sulfuric acid for sale to external customers. Another grade of sulfuric acid produced by the plant, designated PS3, is piped to the DuPont Spruance Plant. Weak acid (8%-12%) from the Spruance Plant is piped back to the James River facility where it is used to make carbon dioxide and gypsum from aragonite/limestone. The basic components of the sulfuric acid production process include the blower/turbine, dry tower, sulfur burner, A-boiler, converter, B-boiler, super-heater, economizer, heat exchanger, oleum tower, interpass absorbing tower, final absorbing tower, demister, and stack. All of these components are considered to be a single emissions unit.

A number 2 fuel oil-fired emergency boiler (Unit 003) is used only when cold-starting the sulfuric acid process after a periodic maintenance shut-down, during an emergency shut-down to maintain the molten state of the sulfur, or for readiness testing.

The Gypsum Plant (Unit 002) produces gypsum from the reaction of calcium carbonate and weak sulfuric acid. This reaction makes calcium sulfate (gypsum) in the form of a slurry, which is degassed to remove carbon dioxide after leaving the crystallizer. Aragonite/limestone is brought to the site by a ship from which it is conveyed to a storage pile. The aragonite/limestone is moved to a hopper by way of a front end loader. It then is transferred to a ball mill where water is added to form a slurry that is processed to reduce the particle size of the limestone for further processing. The slurry mixture leaves the ball mill and is reacted with weak sulfuric acid in a series of closed vessels. The gypsum product is dried through the use of centrifuges and a dryer where the moisture content of the product is reduced to 10%. The water vapor driven off in the dryer is vented to the atmosphere. The finished product is then conveyed and dropped continuously in a pile.

A distillate oil-fired emergency generator (Unit 1002) provides emergency lighting and electrical power to the digital control system (DCS) in the event of an outage.

The facility is a Title V and PSD major source of sulfur dioxide. This source is located in an attainment area for all pollutants. The James River facility is currently permitted under a Title V operating permit issued on November 14, 2001, a modified minor new source review permit issued on May 17, 2002 for the Gypsum Plant, and a modified minor new source review permit issued on March 29, 2007 for the Sulfuric Acid Plant (superseded June 18, 2003 Modified Minor NSR Permit which superseded April 8, 2003 Minor NSR Permit). An application for permit renewal was received on May 8, 2006 and was deemed administratively complete on November 16, 2010.

COMPLIANCE STATUS

A full compliance evaluation with a site visit was last conducted on June 10, 2010. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, have been evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

On November 6, 2007, DuPont entered into a Consent Decree with the Environmental Protection Agency (EPA) and several states, including the Commonwealth of Virginia. EPA alleged that DuPont modified its James River Plant and other sulfuric acid plants in the United States without meeting the NSPS standards or obtaining a PSD permit. The James River Plant was not originally subject to NSPS requirements because it was constructed before the August 17, 1971 applicability date. The Consent Decree establishes that DuPont made a physical or operation change at the James River Plant that resulted in an increase in the emission rate when they received a permit from VADEQ on April 8, 2003 to increase the throughput from 84,053 tons/yr to 109,500 tons/yr. DuPont complied with the schedule within the Consent Decree, completing the last phase of modifications in its compliance plan by November 10, 2009. Since then, Continuous Emissions Monitoring System records submitted to DEQ have demonstrated that the facility is currently in compliance with the sulfur dioxide and sulfuric acid mist emission limits established by the Consent Decree and NSPS, 40 CFR 60, Subpart H, Standards of Performance for Sulfuric Acid Plants. As of this date, DuPont has completed all it obligations in the Consent Decree, which still has an active status.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The significant emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Sulfuric Acid Production Process							
001	S002	Plant reconstructed in 2008-2009 and consists of sulfur burner; heat recovery boilers & related boiler system equipment; sulfur feed pit and related equipment; oleum tower & oleum cooler, drying tower cooler, interpass absorbing tower, final absorbing tower, acid cooler, main blower /turbine	18.75 tons sulfuric acid/hr 38.3 MMBTU/hr (Sulfur Burner)	FAT Mist Eliminator Dual Absorption	D01 D002	Sulfuric Acid Mist Sulfur Dioxide	March 29, 2007
Gypsum Production Process							
002	002	Plant constructed in 1982 and consists of the following: 1 ship unloading conveyor; 1 silo hopper (input); 1 ball mill; 1 product conveyor (output); 5 gypsum processing centrifuges; 1 dryer; 1 aragonite/limestone active storage pile, approximately 1.08 acres	41,780 lb gypsum/hr	---	---	---	May 17, 2002
Emergency Boiler							
003	S03	#2 fuel oil-fired emergency boiler	7.9 MMBTU/hr	---	---	---	December 15, 2006 (exempt)
Emergency Generator							
1002	S1002	Diesel emergency generator	235 hp	---	---	---	exempt

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of the 2009 annual emission update is attached. Emissions are summarized in the following tables.

2009 Actual Emissions

Criteria Pollutant Emissions in tons/year						
Emission Unit	PM_{10}		CO	NO_x	SO_2	VOC
		H_2SO_4 mist				
Sulfur Burner	5.74	10.25	< 0.5	2.87	379.12	-
Gypsum Plant	0.78	-	-	-	-	-
Emergency Boiler	0.02	-	0.05	0.24	0.39	0.002
Total	16.79		0.05	3.11	379.51	0.002

EMISSION UNIT APPLICABLE REQUIREMENTS - Sulfuric Acid Plant (Unit 001)

The permit conditions are taken from the following: a minor NSR permit dated March 29, 2007 for the Sulfuric Acid Plant (superseded June 18, 2003 Modified Minor NSR Permit which superseded April 8, 2003 Minor NSR Permit); 40 CFR Part 60 NSPS Subpart H, Standards of Performance for Sulfuric Acid Plants; and 9 VAC 5-80-50 et seq., Part II-Article 1 Federal Operating Permits for Stationary Sources.

Emissions Unit Identification

The Section II table lists only equipment existing after completion of Phase 2 of the two-phase reconstruction project listed in Condition 2 of the NSR permit. All components of the facility are considered one emissions unit and a mist eliminator is used to control sulfuric acid mist particulate (PM/PM-10) emissions. The facility has a continuous emissions monitor (CEMS) for SO_2 and O_2.

Limitations

Condition III.A.1 limits production of 100% sulfuric acid to 164,250 tpy on a 12-month rolling average, from Condition 5 of the NSR.

Condition III.A.2 limits visible emissions from the sulfuric acid plant to 10% opacity as determined by EPA Method 9 (40 CFR 60, Appendix A), from Condition 8b of the NSR permit and 40 CFR §60.83(a)(2).

Condition III.A.3 places pounds per ton limits on SO_2 and H_2SO_4 emissions as well as hourly and annual limits on PM/PM-10/H_2SO_4, SO_2, and NO_x (corrected from "nitrogen dioxide" in NSR permit) emissions. The H_2SO_4 emission rate measured as pounds per ton in Condition III.A.3.b is from the NSR permit and NSPS, Subpart H. The pounds per ton limit for SO_2 in Condition III.A.3.a and the annual cap for SO_2 emissions in Condition III.A.3.d are both derived from the NSR permit. The NSR determination deemed that the pounds per ton SO_2 limit was best available control technology (BACT), which is stricter than NSPS, Subpart H. Language was added to clarify that the annual limits are calculated on a twelve-month rolling basis.

Condition III.A.4 does not derive from the NSR permit, but specifies the pollution control device required to meet the particulate emission standards in the previous condition, as per 9 VAC 5-80-110 of State Regulations.

Condition III.A.5 references Condition 12 of the NSR permit, which requires the facility to be operated in compliance with NSPS, Subpart H.

Periodic Monitoring, Recordkeeping, and Reporting

The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act, which is subject to an applicable requirement. Although not necessarily promulgated prior to 1990, New Source Performance Standards Subpart H was examined for monitoring adequacy as the facility would exist after completion of Phase 2 of DuPont's reconstruction. The CEMS requirements in the NSR have sufficient monitoring to provide a reasonable assurance of compliance with the applicable sulfur dioxide emission standards. No additional periodic monitoring for the mist eliminator controlling sulfuric acid mist emissions is being required since the differential pressure monitoring device has been determined to provide a reasonable assurance of compliance with the applicable sulfuric acid mist emission (and equivalent PM/PM-10) standards. Daily and annual monitoring of sulfuric acid production provides, through the use of established emission factors based on throughput, reasonable assurance of compliance with the applicable NO_x emission limits.

Condition III.B.1 describes continuous emissions monitoring system requirements, from Condition 9b of the NSR (40 CFR 60, Appendix B and NSPS, Subpart H).

Conditions III.B.2 does not derive from the NSR permit but refers to monitoring data procedures in NSPS, Subpart H.

Condition III.B.3 does not derive from the NSR permit but specifies that the control device be equipped with a monitoring device, as per 9-VAC 5-80-110 of State Regulations.

Condition III.B.4 describes how the opacity requirements for the Sulfuric Acid Production Process will be monitored by having an opacity observation schedule, from Condition 8b of the NSR permit, which will provide a reasonable assurance of compliance with the applicable opacity.

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. Part 60 regulations were determined to have sufficient recordkeeping and reporting requirements to provide a reasonable assurance of compliance with the applicable emission standards.

Condition III.C.1 requires records to demonstrate compliance with throughput and emission limits, from Condition 10 of the NSR and 40 CFR Part §60.84(c).

Condition III.E.1 requires semi-annual excess emission and monitoring performance reporting, from 9 VAC 5-80-110 of State Regulations and 40 CFR Part §60.49(b).

Condition III.E.2 requires the source to report the results of any Method 9 evaluation, including the duration and severity of the opacity exceedance, from 9 VAC 5-80-110 of State Regulations.

The facility submitted an updated Risk Management Plan to the EPA on June 12, 2009. As specified in 40 CFR §68.190, subject facilities must submit an update to the plan no less than every five years. Condition III.E.3 resets the date for the next submittal at five years from the last submittal.

Compliance Assurance Monitoring (CAM)

Generally, the requirements of 40 CFR 64, CAM, apply to each emissions unit meeting all three of the following criteria on a pollutant-by-pollutant basis:

- The unit emits or has the potential to emit (in the absence of add-on control devices) quantities of one or more regulated air pollutants that exceed major source thresholds,
- The unit is subject to one or more emission limitations for the regulated air pollutants for which it is major before control, and
- The unit uses a control device to achieve compliance with one or more of these emission limitations.

SO_2 emissions from the facility are monitored by a CEMS subject to the requirements of 40 CFR Part 60, Appendix B, PS2 and PS3. The CEMS thus meets all the requirements of CAM for SO_2 emissions.

The Sulfuric Acid Production process uses a mist eliminator to comply with the PM and PM-10 (in the form of sulfuric acid mist) emission limit, however the facility does not have the potential to emit over 100 tons per year of PM or PM-10. The facility does not have the potential to emit over 100 tons per year of NO_x nor does it use a control device. Thus particulate and NO_x emissions are also not subject to CAM.

Testing

The permit does not require source tests for the Sulfuric Acid Production process. A requirement to use appropriate test method(s) in accordance with procedures approved by the Department has been included in the permit if testing is performed. The Department and EPA

have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Condition III.D.1 requires providing testing and monitoring ports, if and when source testing is required, from Condition 3 of the NSR.

Condition III.D.2 requires that when testing is required, the source use appropriate and approved test methods, from 9 VAC 5-80-110 of State Regulations.

Streamlined Requirements

The following conditions in the NSR permit have not been included for the reasons provided. All of the construction phase milestones contained in the EPA Consent Decree and 3/29/07 NSR Permit have been met. The Phase I section of Condition 2, all of Condition 4, the first sentence of Condition 5, all of Conditions 6, 8a, 9a, and 11 of the NSR permit pertain to the reconstruction-in-progress phase of the sulfuric acid plant modification and are thus obsolete. The streamlined opacity and emission limits (from 9 VAC 5 Chapter 40-Part II-Article 1 Existing Stationary Sources Standards of Performance for Visible Emissions and Fugitive Dust/Emissions (Rule 4-1) and 9 VAC 5 Chapter 40 Part II – Article 21 Existing Stationary Source Emission Standards for Sulfuric Acid Production Units (Rule 4-21)) were less strict than those that remain in force. Conditions 13 through 20 of the NSR Permit have not been listed because they are the same as the requirements in the General Conditions section.

EMISSION UNIT APPLICABLE REQUIREMENTS - Gypsum Plant (Unit 002)

The permit conditions are taken from the following: a minor NSR permit dated May 17, 2002 (superseded August 11, 1999 Minor NSR Permit); and 9 VAC 5-80-50 et seq., Part II-Article 1 Federal Operating Permits for Stationary Sources.

Emissions Unit Identification

The Section II table lists equipment listed in Condition 2 of the 05/17/2002 NSR permit, which includes equipment existing prior to the 2002 project. All components of the Gypsum Production Process are not subject to 40 CFR Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants because the plant was constructed prior to 1983 applicability date.

Limitations

Condition IV.A.1 limits gypsum production to 180,000 tons per year, calculated monthly as the sum of each consecutive 12-month period, from Condition 4 of 05/17/2002 NSR Permit.

Condition IV.A.2 limits PM and PM-10 emissions, from Condition 5 of 05/17/2002 NSR Permit.

Condition IV.A.3 limits visible emission from the gypsum process to 10 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A), from Condition 6 of 05/17/2002 NSR Permit.

Periodic Monitoring, Recordkeeping, and Reporting

The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act, which is subject to an applicable requirement. With respect to these requirements, periodic monitoring is required for PM and PM-10 emissions from the Gypsum Production Process.

The new and modified source rule from Chapter 50 of Virginia's regulations (Rule 5-1) does not contain any specific or enforceable monitoring requirements for opacity. Thus the opacity requirements for the Gypsum Production Process will be monitored by using a generic opacity observation schedule along with associated recordkeeping and reporting provisions that have been developed since the May 17, 2002 modified minor NSR permit. The weekly monitoring schedule in Condition IV.B.1 for the Gypsum Production Process is modeled after schedules developed for similar Title V facility operations in Virginia.

Periodic monitoring for the Gypsum Production Process regarding the applicable PM emission standards has been determined to consist of the maximum rated hourly capacity for the process, AP-42 emission factors, and good operating practices. Recordkeeping requirements also serve as periodic monitoring requirements. Condition IV.B.2 requires records demonstrating compliance with throughput and emission limits, from Condition 7 of the 05/17/2002 NSR Permit.

Condition IV.D.1 requires the source to report the results of any Method 9 evaluation, including the duration and severity of the opacity exceedance, from 9 VAC 5-80-110 of State Regulations.

Compliance Assurance Monitoring (CAM)

The Gypsum Production Process does not have the potential to emit more than 100 tons per year of particulate matter or PM-10 with or without control devices, thus it is not subject to CAM.

Testing

The permit does not require source tests for the Gypsum Production Process. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard. Requirements to provide testing and monitoring ports and use appropriate test method(s) in accordance with procedures approved by the Department have been included in the permit Condition IV.C.1 and IV.C.2 if and when testing is required. These requirements are not in the NSR permit but are from 9 VAC 5-50-30 and 9 VAC 5-80-110 of State Regulations.

Streamlined Requirements

The following conditions in the NSR permit have not been included for the reasons provided. Conditions 3 and 10 through 18 of the 05/17/2002 NSR Permit have not been listed because they are the same as requirements in the General Conditions section. Conditions 8 and 9 were not listed because they pertain to the construction phase of the centrifuge, for which the NSR permit was issued, and is complete. These notifications were submitted to PRO on September 9, 2002, thus fulfilling Condition 8 requirements.

EMISSION UNIT APPLICABLE REQUIREMENTS - Emergency Boiler (Unit 003)

The Emergency Boiler (Unit 003) is operated to prevent molten sulfur being fed to the sulfuric acid production process from solidifying in process pipes when the process is shut down or during an emergency such as a broken pipe. The unit is also operated occasionally to ensure it will be functional in an emergency event. The 7.9 MMBtu/hr distillate oil-fired emergency boiler was deemed exempt from minor NSR permitting in a letter dated December 15, 2006 and is subject to 9 VAC 5 Chapter 40-Part II-Article 8 Existing Stationary Sources Emission Standards for Fuel Burning Equipment (Rule 4-8). It is not subject to any NSPS and is an affected existing source for 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources (MACT, Subpart JJJJJJ). The boiler area MACT was promulgated on February 21, 2011, thus Virginia is not currently delegated to enforce it. Because it is a distillate oil burning boiler and subject to a MACT, it is specifically exempt from the state toxics rule, 9 VAC 5 Chapter 60-Part II-Article 5 Emission Standards for Toxic Pollutants from New and Modified Sources (Rule 6-5).

Limitations

Condition V.A.1 defines the fuel oil used in the boiler, which was a condition of allowing it to be exempt from NSR permitting, from 9 VAC 5-80-1320 of State Regulations.

Condition V.A.2 limits the sulfur content of the fuel oil, which keeps SO_2 emissions below the NSR permitting exemption level, from 9 VAC 5-80-1320 of State Regulations.

Condition V.A.3 limits particulate matter to 0.6 lb PM/MMBtu, which equates to 4.7 lb PM/hr (0.6 lb/MMBtu x 9.7 MMBtu/hr) from Rule 4-8 of State Regulations.

Condition V.A.4 limits sulfur dioxide emissions to 2.64 lb SO_2/MMBtu, which equates to 20.9 lb SO_2/hr (2.64 lb/MMBtu x 9.7 MMBtu/hr), also from Rule 4-8 of State Regulations.

Condition V.A.5 limits visible emissions to 20% opacity. In the absence of an applicable NSPS, it is subject to 9 VAC 5 Chapter 50-Part II-Article 1 New and Modified Stationary Sources Standards of Performance for Visible Emissions and Fugitive Dust/Emissions (Rule 5-1).

Condition V.A.6 requires proper operation of the emergency boiler to minimize emissions, from State Regulations for existing sources, until stricter work practice and management standards become effective on the compliance date for MACT Subpart JJJJJJ, from 9 VAC 5-80-110 of State Regulations.

Condition V.A.7 incorporates by reference the work practice and management standards in MACT Subpart JJJJJJ.

Periodic Monitoring, Recordkeeping, and Reporting

The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act that is subject to an applicable requirement. With respect to these requirements, periodic monitoring is required for sulfur dioxide and PM emissions as well as opacity from the Emergency Boiler (003). Virginia Regulations require that operators of exempt equipment keep

records demonstrating that the equipment continues to be operated in a manner that maintains its exempt status.

In the absence of any specific or enforceable monitoring requirements for opacity in the existing or new source rules of Virginia's regulations (Rules 4-1 and 5-1), the opacity requirements for the Emergency Boiler (003) will be monitored by having an opacity observation schedule as described in Condition V.B.1, from 9 VAC 5-80-110 of State Regulations. The monthly schedule is based upon the distillate fuel oil it uses, as verified by fuel certifications, and the infrequency of its operation.

Conditions V.B.2 and V.B.3 describe periodic monitoring for the Emergency Boiler (003) regarding the applicable PM and sulfur dioxide emission standards. Periodic monitoring has been determined to consist of obtaining fuel supplier certifications, records demonstrating compliance with sulfur limits, good operating practices, and adhering to a maintenance schedule, all of which are described in State Regulations.

Condition V.B.4 incorporates by reference the recordkeeping requirements in MACT Subpart JJJJJJ.

Condition V.D.1 requires the source to report the results of any Method 9 evaluation, including the duration and severity of the opacity exceedance, from 9 VAC 5-80-110 of State Regulations.

Conditions V.D. 2 through V.D.4 incorporate by reference the Initial Notification, Notification of Compliance Status, and biennial Compliance Status Report requirements in MACT Subpart JJJJJJ.

Compliance Assurance Monitoring (CAM)

The Emergency Boiler (003) does not have the potential to emit more than 100 tons per year of any criteria pollutant with or without control devices, thus it is not subject to CAM.

Testing

The permit does not require source tests for the Emergency Boiler. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard. A requirement to provide testing and monitoring ports and use appropriate test method(s) in accordance with procedures approved by the Department has been included in the permit Conditions V.C.1. and V.C.2. if and when testing is required. This requirement is from 9 VAC 5-50-30 and 9 VAC 5-80-110 of State Regulations.

Streamlined Requirements

No streamlined requirements have been identified for the Emergency Boiler, as it was determined to be exempt from NSR permitting in 2006.

EMISSION UNIT APPLICABLE REQUIREMENTS - Emergency Generator (Unit 1002)

The emergency diesel generator, rated at 235 hp, provides emergency lighting and electrical power to the digital control system (DCS) in the event of an outage. It has never been the subject of a State permit and is listed as an insignificant emission unit in the current Title V Permit. The emergency diesel generator is an existing CI RICE located at an area source with less than 500 hp in aggregate capacity, thus is an affected existing source for 40 CFR Part 63 Subpart ZZZZ, the National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE MACT). Currently, Virginia has not accepted delegation to enforce this MACT. Being installed before the applicability date of April 1, 2006, it is not subject to 40 CFR Part 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. The emergency generator burns only distillate fuel oil and is subject to a MACT, thus is specifically exempted from the provisions of Virginia's Toxics Regulations, as per 9 VAC 5-60-300 C. 7. Stationary RICE are also exempted from the emissions standards in 9 VAC 5 Chapter 40-Part II-Article 8 Existing Stationary Sources Emission Standards for Fuel Burning Equipment (Rule 4-8). The emergency generator is subject to 9 VAC 5 Chapter 40-Part II-Article 1 Existing Stationary Sources - Emission Standards – Visible Emissions and Fugitive/Dust Emissions (Rule 4-1).

Limitations

Condition VI.A.1 limits the unit to 500 hours per year, including maintenance and testing periods, as emergency generators are defined by Virginia and Federal Regulations for emergency generators.

Condition VI.A.2 limits opacity to 20%, from 9 VAC 5-40-80 (Rule 4-1).

Condition VI.A.3 requires proper operation of the emergency generator to minimize emissions, from State Regulations for existing sources, until stricter work practice and management standards become effective on the compliance date for MACT Subpart ZZZZ.

Condition VI.A.4 incorporates by reference the operating limitations and maintenance practices found in Table 2d to MACT Subpart ZZZZ.

Monitoring/Recordkeeping

The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act that is subject to an applicable requirement. Virginia Regulations require that operators of exempt equipment keep records demonstrating that the equipment continues to be operated in a manner that maintains its exempt status.

In the absence of any specific or enforceable monitoring requirements for opacity in the existing or new source rules of Virginia's regulations (Rules 4-1 and 5-1), the opacity requirements for the Emergency Generator (1002) will be monitored by having an opacity observation schedule as described in Condition VI.B.1. The monthly schedule is based upon the distillate fuel oil it uses, as verified by fuel certifications, and the infrequency of its operation.

Conditions VI.B.2 and VI.B.3 describe periodic monitoring for the Emergency Generator (1002) regarding the applicable opacity standards. Periodic monitoring has been determined to consist of obtaining fuel supplier certifications, records demonstrating compliance with good operating practices, and adhering to a maintenance schedule, all of which are described in State Regulations.

Condition VI.B.4 incorporates by reference the recordkeeping requirements in MACT Subpart ZZZZ.

Condition VI.C.1 requires the source to report the results of any Method 9 evaluation, including the duration and severity of the opacity exceedance, from 9 VAC 5-80-110 of State Regulations.

Compliance Assurance Monitoring (CAM)

The Emergency Generator does not have the potential to emit more than 100 tons per year of any criteria pollutant with or without control devices, thus it is not subject to CAM.

Testing

Neither Virginia Regulations nor MACT Subpart ZZZZ requires testing because there are no emissions standards applicable to this existing CI RICE emergency diesel generator.

Reporting

No Initial Notification, Initial Compliance Notification, or Compliance Status Reports are required by MACT Subpart ZZZZ for this unit.

Streamlined Requirements

No streamlined requirements have been identified for the Emergency Generator, as it has never been the subject of a State permit.

FACILITY WIDE CONDITIONS

No facility wide conditions exist in either of the underlying NSR permits for the sulfuric acid and gypsum processes. Also, the facility does not have a State Operating Permit that would have facility wide limits. The opacity limits in both of the current NSR permits are stricter than the new and modified source rule from Chapter 50 of Virginia's regulations (Rule 5-1) or the facility wide limit in the original Title V permit, so the facility wide opacity limit was streamlined out. The facility wide standards for fugitive/dust emissions in the original Title V permit are, in accordance with the current boilerplate, in the General Conditions section. Consequently, there are no facility wide conditions in this Title V permit.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement No. 3-2006".

This general condition cites the Articles that follow:

Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow:

9 VAC 5-80-80. Application

9 VAC 5-80-140. Permit Shield

9 VAC 5-80-150. Action on Permit Applications

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

In order for emission units to be relieved from the requirement to make a written report in 14 days the emission units must have continuous monitors meeting the requirements of 9 VAC 5-50-410 or 9 VAC 5-40-41.

This general condition cites the sections that follow, as applicable to the facility:

9 VAC 5-40-41. Emissions Monitoring Procedures for Existing Sources

9 VAC 5-40-50. Notification, Records and Reporting

9 VAC 5-50-50. Notification, Records and Reporting

This general condition contains a citation from the Code of Federal Regulations as follows:

40 CFR 60.13 (h). Monitoring Requirements.

J. Permit Modification

This general condition cites the sections that follow:

9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources

9 VAC 5-80-190. Changes to Permits.

9 VAC 5-80-260. Enforcement.

9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on General Condition F.

This general condition cites the sections that follow:

9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction

9 VAC 5-80-110. Permit Content

Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9 VAC 5-60-70. Designated Emissions Standards

9 VAC 5-80-110. Permit Content

STATE ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have not been included in the Federal Operating Permit:

9 VAC 5-40-340, Standard for odor;

9 VAC 5-60-200, Emission Standards for Toxic Pollutants from Existing Sources (Rule 6-4) et. seq.; and,

9 VAC 5-60-300, Emission Standards for Toxic Pollutants from New and Modified Sources (Rule 6-5), et. seq.

FUTURE APPLICABLE REQUIREMENTS

The Sulfuric Acid Plant 38.3 MMBtu/hr sulfur burner may be subject to 40 CFR Part 63, *National Emission Standards for Area Sources: Industrial, Commercial, and Institutional Boilers* (MACT Subpart JJJJJJ) because it is an area source with an existing industrial process heater.

The facility submitted an updated Risk Management Plan for the Sulfuric Acid Process to the EPA on June 12, 2009. As specified in 40 CFR §68.190, subject facilities must submit an update to the plan no less than every five years.

INAPPLICABLE REQUIREMENTS

Neither of the two processes at the facility, Sulfuric Acid Plant (001) or Gypsum Plant (002) is subject to 40 CFR Part 64, Compliance Assurance Monitoring because each one does not meet all three criteria, as described above. The Sulfuric Acid Process also has a CEMS, which exceeds any monitoring that would be required by CAM, if it were applicable. The facility as a whole is not subject to 40 CFR Parts 51, 52, 70, and 71, Title V Greenhouse Gas Tailoring Rule, Phase 1 because the facility has not triggered major NSR review (the only current potential source of GHG Title V applicable requirements) since January 2, 2011. The Gypsum Process (002) was constructed in 1982, before the August 31, 1983 applicability date of 40 CFR Part 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants, so that process is not subject.

The March 29, 2007 NSR Permit for the Sulfuric Acid Plant (001) has stricter emission standards than 9 VAC 5 Chapter 40 Part II – Article 1 – Existing Stationary Standards of Performance for Visible Emissions and Fugitive Dust/Emissions (Rule 4-1). After the final phase of modifications of the Sulfuric Acid Plant (002) reconstruction was completed, 9 VAC 5 Chapter 50- Part II - Article 1 - New and Modified Stationary Sources Standards of Performance for Visible Emissions and Fugitive Dust/Emissions (Rule 5-1) became effective. Likewise for 9 VAC 5 Chapter 40 Part II - Article 21 - Existing Stationary Source Standards for Sulfuric Acid Production Units (Rule 4-21), the March 29, 2007 NSR Permit has stricter emission standards after completion of the final phase of modifications. The May 17, 2002 NSR Permit for the Gypsum Plant (002) has a stricter opacity standard than 9 VAC 5 Chapter 50 Part II – Article 1 - New and Modified Stationary Sources Standards of Performance for Visible Emissions and Fugitive Dust/Emissions (Rule 5-

1). The facility has no HAPs subject to 9 VAC 5 Chapter 60 Part II - Article 5 - Emission Standards for Toxic Pollutants from New and Modified Sources (Rule 6-5).

Regarding insignificant emissions units, 40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units is not applicable because the auxiliary boiler's heat input rate is less than the 10 MMBTU/hr applicability level. The fuel storage tanks are not subject to 40 CFR 60, Subpart Kb, Volatile Organic Liquid Storage Vessels Standards and 9 VAC 5-40-5220 VOC Standards for Petroleum Liquid Storage and Transfer Operations (Rule 4-37) because the diesel fuel's maximum true vapor pressure is below those standards' applicability levels and the gasoline tanks' dimensions are below the standards' applicability levels. The 235 hp CI RICE emergency generator is not subject to 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines because it was constructed before the applicability date of July 11, 2005 and has not been modified. It is an affected facility under 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines. Because it is located at an area source for HAP, has less than 500 hp, and was constructed before the applicability date of June 12, 2006, it is only subject to the notification and recordkeeping requirements of the MACT.

COMPLIANCE PLAN

To meet the terms of the EPA Consent Decree, DuPont submitted a minor NSR permit application on July 7, 2006 to install dual absorption technology and related equipment to reduce sulfur dioxide (SO2) emissions from the sulfuric acid plant, unit 001 (sulfuric acid production process) at the James River Plant in Richmond. In addition, the source proposed to change from a block format to a rolling average for SO_2 emissions and start-up limits. The VADEQ Piedmont Regional Office issued the minor NSR permit on March 29, 2007.

DuPont installed the equipment in two phases. DuPont commenced construction on Phase 1 on April 17, 2007 and completed it in November 13, 2007. Upon completion, the facility became limited to 310.9 tons/day of sulfuric acid production.

The DuPont James River plant became subject to the NSPS, 40 CFR 60, Subpart H, Standards of Performance for Sulfuric Acid Plants, when DuPont made the physical changes to the sulfuric acid plant including the sulfur burner, the "A" boiler, and the main blower and associated equipment during Phase 2. DuPont commenced construction on Phase 2 on October 20, 2008 and completed it on November 10, 2009. There was an increase in the emission rate (NSPS modification definition) when Phase 2 was completed and the plant is currently limited to 450 tons/day of sulfuric acid production. The facility has met all its obligations contained in the EPA Consent Decree, which remains in an active status. Consequently, this Title V Permit does not contain a Compliance Plan.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation[1]	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity 9 VAC 5-80-720 C)
1003	Gasoline Storage Tank	5-80-720 B.2.	VOC	1,000 gallons
1004	Roadways and Parking Lots	5-80-720 C.3.	PM-10	
1006	Product Truck and Rail Loading	5-80-720 B.1.	TSP, Sulfuric Acid Mist	
1007	Unloading Molten Sulfur Pit	5-80-720 B.1.	TSP, hydrogen sulfide	
1008	Process Feed Molten Sulfur Pit	5-80-720 B.1.	TSP, hydrogen sulfide	
1009	Diesel Storage Tank	5-80-720 B.2.	VOC	1,000 gallons
1010	#2 Fuel Oil Storage Tank	5-80-720 B.2.	VOC	6,200 gallons

[1]The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are available for public review.

PUBLIC PARTICIPATION

A public notice ran in Style Weekly on April 13, 2011. The 30-day state public comment period expired on May 9, 2011 and the 45-day EPA concurrent comment period expired on May 31, 2011. No comments were received from the public. In response to EPA's comments of April 28, 2011, DEQ made the following administrative changes: The PSD status was correctly identified as "major" for SO_2 and the annual emissions limits for the sulfuric acid plant were clarified as being calculated on a twelve-month rolling basis.

EMISSION ESTIMATE FOR 0.3-10 mmbtu/hr #2 oil boilers (SCC 10300501)

Company Name: Du Pont James River Plant SAP
Source Location: Richmond, VA
Registration No.: 50554.00

Date: 11/05/10
Permit Writer: WAB

One boiler rated at 7.9 MMbtu/hr

BTU Rating:	7.90	MMBtu/hr
Fuel Rating	56.43	gal/hr
Process Throughput:	3.74	Kgal/yr
Fuel Sulfur Content:	0.05	% (by weight)

Pollutant	Emission Factor lb/kgal	Reference	UNCONTROLLED EMISSIONS Hourly (lb/hr)	8760 hrs (ton/yr)	Thruput (ton/yr)	Control Technology	Control Eff. %	PERMIT EMISSION LIMITS (lb/hr)	(ton/yr)
Criteria Pollutants									
TSP	2.00	(1)	0.11	0.49	0.0037	None	0.00	0.11	0.00
PM10	1.08	(4)	0.06	0.27	0.0020	None	0.00	0.06	0.00
CO	5	(1)	0.28	1.24	0.0094	None	0.00	0.28	0.01
NOx	20.0	(1)	1.13	4.94	0.0374	None	0.00	1.13	0.04
SO2	7.1	(1)	0.40	1.75	0.0133	None	0.00	0.40	0.01
VOC Non-methane	0.340	(2)	0.02	0.08	0.0006	None	0.00	0.02	0.00
VOC Total	0.556	(2)	0.03	0.14	0.0010	None	0.00	0.03	0.00
Lead	1.25E-03	(3)	7.03E-05	3.08E-04	2.33E-06	None	0.00	7.03E-05	2.33E-06
Toxic Pollutants									
Sb	N/A	(3)				None	0.00	0.00E+00	0.00E+00
As	5.88E-04	(3)	3.32E-02	1.45E-01	1.10E-06	None	0.00	3.32E-02	1.10E-06
Be	3.50E-04	(3)	1.98E-02	8.65E-02	6.55E-07	None	0.00	1.98E-02	6.55E-07
Cd	1.54E-03	(3)	8.69E-02	3.81E-01	2.88E-06	None	0.00	8.69E-02	2.88E-06
Cr	9.38E-03	(3)	5.29E-01	2.32E+00	1.75E-05	None	0.00	5.29E-01	1.75E-05
Co	N/A	(3)				None	0.00	0.00E+00	0.00E+00
Mn	1.96E-03	(3)	1.11E-01	4.84E-01	3.67E-06	None	0.00	1.11E-01	3.67E-06
Hg	4.20E-04	(3)	2.37E-02	1.04E-01	7.85E-07	None	0.00	2.37E-02	7.85E-07
Ni	2.38E-02	(3)	1.34E+00	5.88E+00	4.45E-05	None	0.00	1.34E+00	4.45E-05
Se	N/A	(3)				None	0.00	0.00E+00	0.00E+00

(1) Based on AP-42 Table 1.3-2 date 1/95 Emission Factors for Fuel Oil Combustion
(2) Based on AP-42 Table 1.3-4 dated 1/95 Emission Factors for Fuel Oil Combustion
(3) Based on AP-42 Table 1.3-11 dated 1/95 Emission Factors for Fuel Oil Combustion
Assume 140,000 btu/gal
Pollutant Emission Factor = lb/E12 Btu x 140000 Btu/gal x 1000 gal/kgal = lb/kgal

Registration Number : 50554

County - Plant Id: 041-00078

Plant Name : DuPont De Nemours E I & Company Inc James River Pl

POLLUTANT EMISSIONS REPORT (STACK/POINT) (TONS/YEAR)

Parameter List

Pollutant Type: All Pollutants
Years: 2009 - 2009

Inventory Year 2009

Stack #: 1 Package Boiler

Point #: 1	ASC	BEC	CDC	CO	CRC	FORM	HGC	MNC
Segment #: 1	0.000	0.000	0.000	0.050	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.050	0.000	0.000	0.000	0.000

Registration Number : 50554

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POLLUTANT EMISSIONS REPORT (STACK/POINT) (TONS/YEAR)

Parameter List

Pollutant Type: All Pollutants
Years: 2009 - 2009

Inventory Year 2009

Stack #: 1 Package Boiler

Point #: 1	NH3	NIC	NO2	PB	PM	PM 10	PM 2.5	POM
1	0.008	0.000	0.238	0.000	0.020	0.020	0.002	0.000
	0.008	0.000	0.238	0.000	0.020	0.020	0.002	0.000

Registration Number : 50554

County - Plant Id: 041-00078

Plant Name : DuPont De Nemours E I & Company Inc James River Pl

POLLUTANT EMISSIONS REPORT (STACK/POINT) (TONS/YEAR)

Parameter List

Pollutant Type: All Pollutants
Years: 2009 - 2009

Inventory Year 2009

Stack #: 1 Package Boiler

Point #: 1	SEC	SO2	VOC
1	0.000	0.389	0.002
	0.000	0.389	0.002

Stack #: 2 Sulfuric Acid Production

Point #: 2	CO	H2SO4	NO2	PM	PM 10	PM 2.5	SO2	VOC
Segment #: 1	0.004	10.247	2.869	0.004	5.738	0.000	379.121	0.000
	0.004	10.247	2.869	0.004	5.738	0.000	379.121	0.000

Stack #: 3 Gypsum Plant

Point #: 3	PM	PM 10	PM 2.5
Segment #: 1	0.782	0.782	0.782
	0.782	0.782	0.782